

Remarks

Claims 1-6 and 16-20 were presented for examination. Claims 1-6 and 16-20 were rejected. Applicant is hereby amending claims 1 and 16. Applicant is canceling claims 2 and 18 and adding new claims 21-23. Support for all amendments and new claims is found in the specification as originally filed. Reconsideration of this application as amended, and allowance of all pending claims are hereby respectfully requested.

Claim Rejections

Claims 1, 5-6 and 16-17 were rejected under 35 U.S.C. § 102 as anticipated by U.S. Patent 4,138,825 (Pelta). Applicant respectfully requests reconsideration and allowance of the claims in view of the amendments presented herein and the following arguments. For at least the reasons stated below, Pelta does not disclose or suggest each and every element of the amended claims.

The present invention, as recited for example in claim 1, is directed to measuring a wheel alignment angle using a measurement head that includes a micro-electromechanical systems (MEMS) accelerometer. As explained in the present specification, one advantage of the claimed invention is that a micro-electromechanical accelerometer produces a mechanically robust, lightweight and accurate system for measuring a wheel alignment angle.

Pelta does not disclose or suggest “a measurement head including a micro-electromechanical accelerometer” as recited in independent claims 1 and 16. Pelta discloses a system for performing runout compensation in a wheel alignment context. Pelta’s system includes a measurement head having an inclinometer 46. The inclinometer 46 uses an included accelerometer to produce camber measurements with respect to gravity (see, col. 6, lines 15-19

and FIG. 6(a)). In contrast with the claimed invention, however, Pelta does not disclose or suggest the use of a micro-electromechanical systems (MEMS) accelerometer.

In this regard, the Office Action relies on U.S. Patent 6,792,792 (Babala) for the disclosure of a MEMS accelerometer in the context of a vehicle stability system. The Office Action argues that one skilled in the art would have been motivated to combine the MEMS accelerometer disclosure of Babala with the wheel alignment system of Pelta to achieve a wheel alignment sensor having reduced size and integrated electronics.

Applicant respectfully submits that the claim rejection impermissibly uses the present disclosure to support an argument as to what would have been obvious at the time of the invention. In rejecting a claim under § 103, the Examiner is required to set forth a motivation to combine references or modify a reference in the reasonable expectation of achieving a particular benefit. This motivation must be based solely on the concepts disclosed in the references themselves (i.e., without the use of hindsight).

In this case, the Office Action points to Babala at col. 1, lines 45-67 for the alleged motivation. However, the referenced description refers to the integration benefits of MEMS devices themselves, rather than to a benefit achieved by the claimed invention within the context of wheel alignment. For example, as described above, one benefit of the claimed invention is mechanical robustness in a wheel angle measurement application. Vehicle stability systems are typically installed in protected environments for use in an operational vehicle. On the other hand, wheel angle measurement typically involves mounting a portable device on a wheel in an unprotected workshop.

Applicant respectfully submits that one skilled in the art would not have found a reasonable expectation of achieving this benefit based on the combination of Pelta and Babala as proposed in the Office Action. Wheel alignment and vehicle stability control are unrelated, and in fact normally are considered by different technical personnel. Cross-fertilization is not expected between these two technologies. Therefore, at the time of the invention, one skilled in the art would not have been motivated to combine the references in the manner suggested.

Dependent claims 3-6 and 17-20 also include patentable recitations that should be considered allowable in view of the proposed combination of references. Reconsideration and withdrawal of the rejection are therefore respectfully requested.

New Claims 21-23

Claims 21-23 dependently incorporate subject matter that was subject to restriction when presented in independent form. Applicant respectfully requests that new claims 21-23 be given consideration as dependent upon claims 1 and 16. Accordingly, claims 21-23 should be considered allowable for at least the reasons stated above.

Conclusion

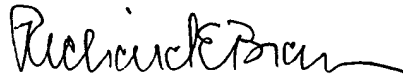
Accordingly, it is believed that all pending claims are now in condition for allowance. Applicant therefore respectfully requests an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicant's representative at the telephone number shown below.

Application No.: 10/815,858

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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